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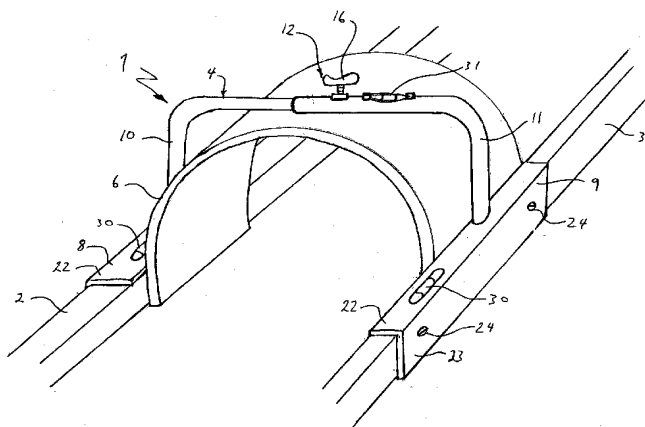
(56) Documents Cited:
GB 2336389 A **GB 2281092 A**
GB 2218450 A

(58) Field of Search:
INT CL **E04D, E04F, E04G**
Other: **Online: EPODOC, WPI**

(54) Abstract Title: **Laying Ridge Tiles**

(57) Laying of roofing ridge tiles along a either a peak or hip of a roof is done using a jig 1 comprising a pair of elongate parallel rails 2, 3, and at least one linkage 4, 4' extending between the rails to hold said rails in parallel alignment with each other. The rails of the jig can be placed on a roof 7 either side of a line of ridge tiles 6 being laid with the linkage 4, 4' extending over the ridge tiles 6. A user may then lay at one or more adjacent ridge tiles along a line of ridge tiles to be laid, and place the jig 1 over the or each of the ridge tiles 6. The jig 1 is aligned so that the rails 2, 3 and/or linkage 4 of the jig define a desired orientation of the line of ridge tiles 6. A user can then use the clearance or contact of the jig 1 with the or each of the ridge tiles 6 to check and if necessary adjust the alignment of the or each of the ridge tiles 6 with respect to the desired orientation.

Fig. 1



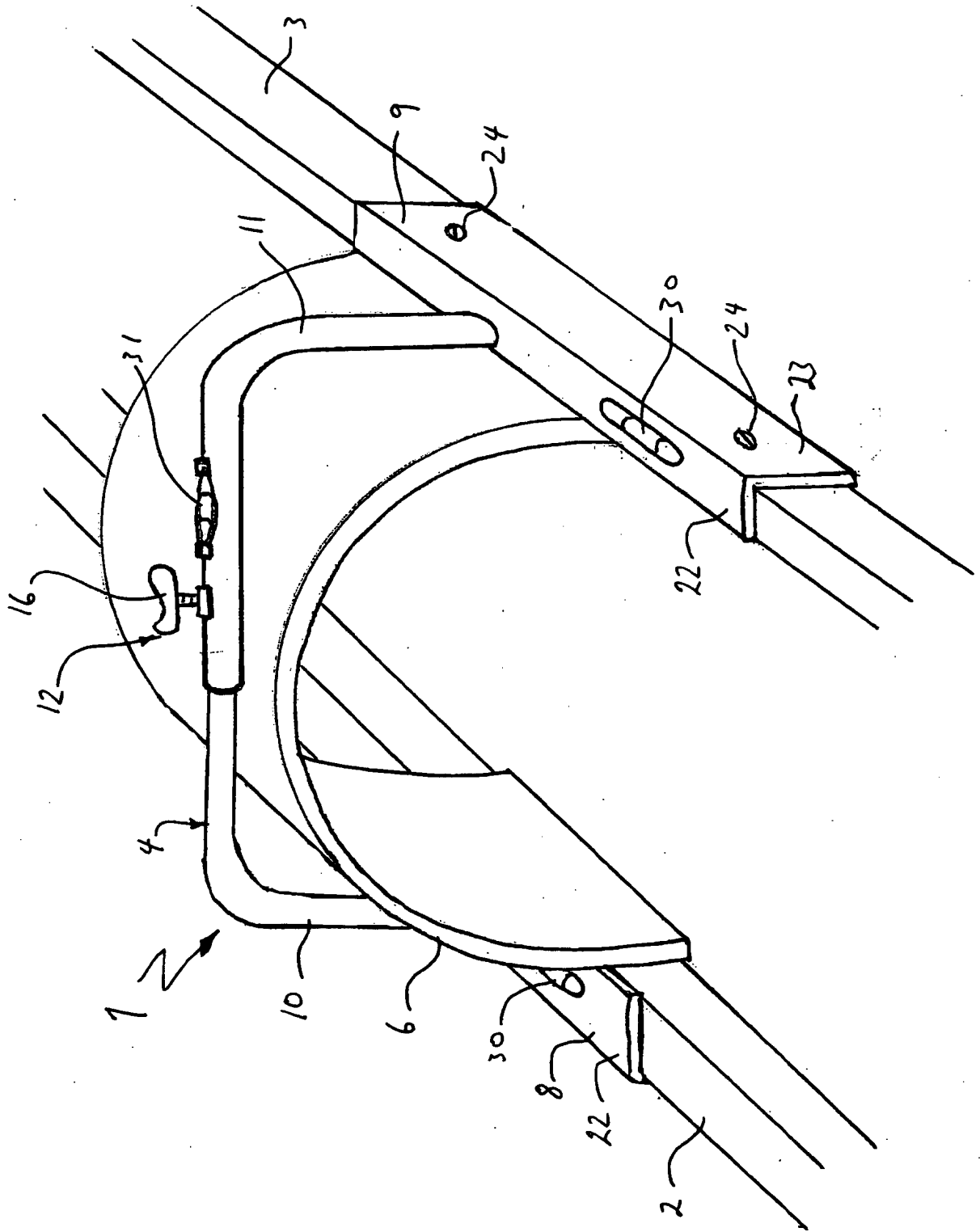


Fig. 1

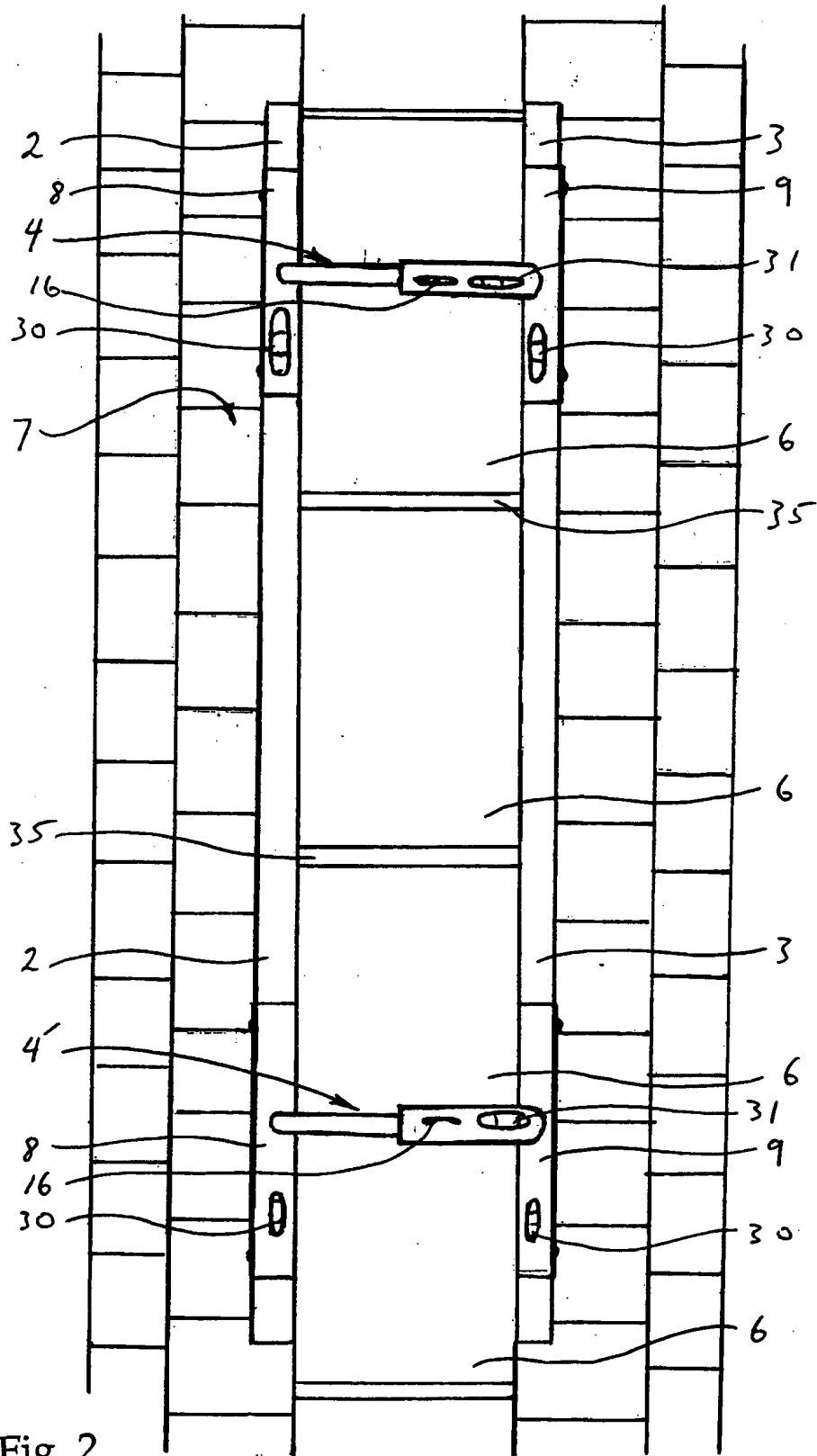
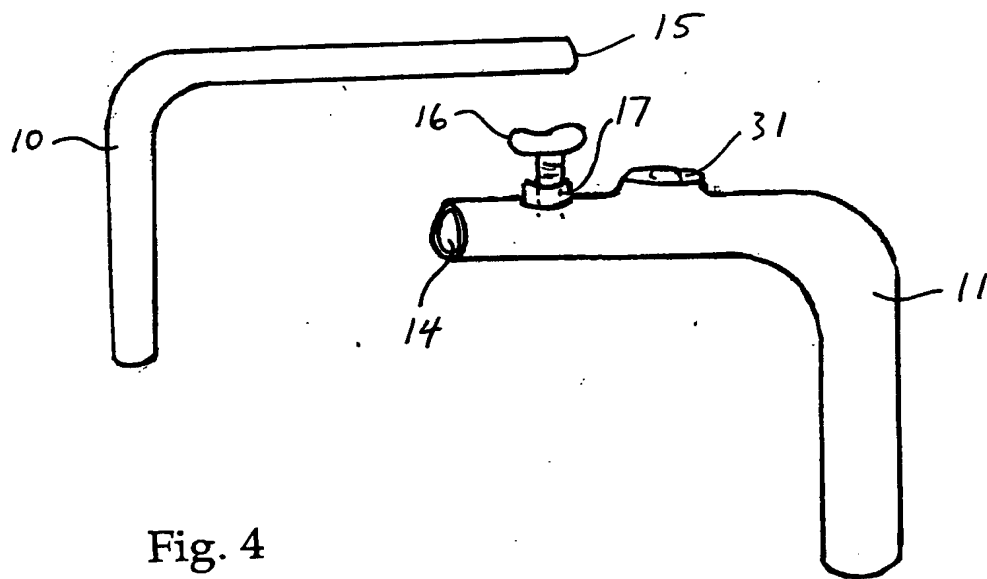
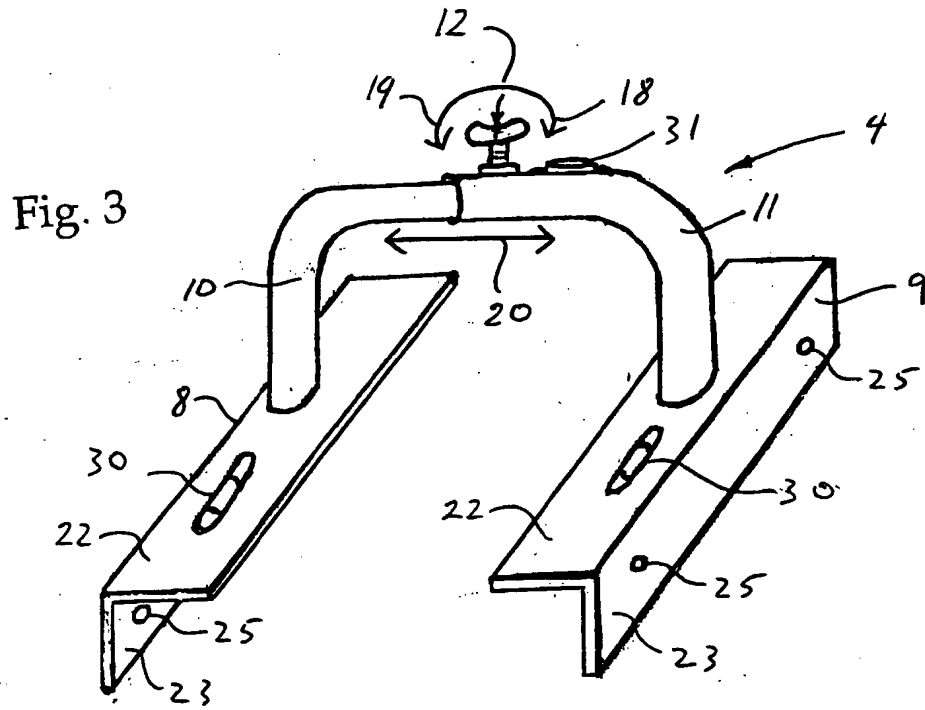


Fig. 2



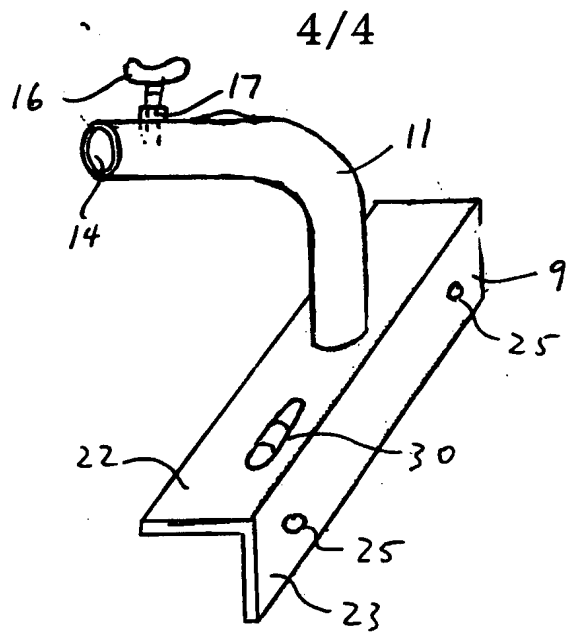


Fig. 5

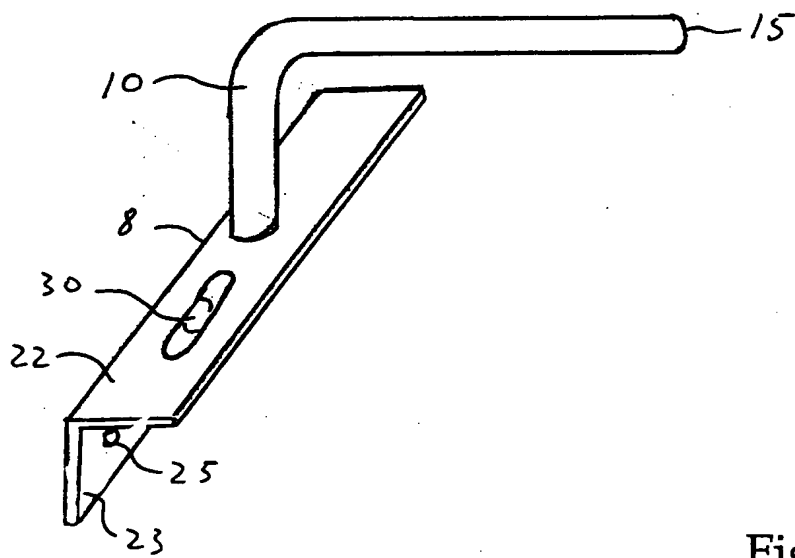


Fig. 6

Laying Ridge Tiles

BACKGROUND

5 a. Field of the Invention

The present invention relates to the laying of roofing ridge tiles along a either a peak or hip of a roof.

10 b. Related Art

Ridge tiles are used to cover over the ridge lines of a roof, for example along a peak of the roof or over a hip roof where two sloping sections of a roof meet. Such ridge tile can be either wet laid using mortar, or dry laid using fixings of an
15 engineered roofing system. Although the present invention can be used with either type of ridge tile system, it is particularly applicable to the more traditional wet ridge systems.

Although wet ridge systems provides a secure and attractive way to cap a high
20 point or edge in a roof line, the laying of ridge tiles requires considerably more skill than the laying a plain roof tiles. It can be difficult to achieve a good alignment and uniform appearance of ridge tiles along the length of a peak or hip in a roof. The usual way of achieving a straight line is to stretch a string along the length of the ridge, which can be difficult and time-consuming to do when working at a height
25 from the ground. The ridge tiles should ideally be laid quickly, without any breaks in the operation; otherwise the mortar beneath the tiles may not harden uniformly. This is of course also desirable for reasons of economy of labour. Unfortunately, a worker may not be able to work steadily or quickly enough while achieving the necessary uniformity along the line of the ridge.

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It is an object of the present invention to provide a more convenient apparatus and method for laying roofing ridge tiles.

SUMMARY OF THE INVENTION

According to the invention, there is provided a jig for laying roofing ridge tiles, comprising a pair of elongate laterally offset rails, and at least one linkage
5 extending between the rails to hold said rails in alignment with each other, such that the rails of the jig can be placed on a roof either side of a line of ridge tiles being laid with the linkage extending over said ridge tiles.

The jig may then be moved along the length of a run of ridge tiles with the contact
10 or amount of clearance between the jig and the ridge tiles being a measure of the alignment of the ridge tiles.

The laterally offset ridge tiles may be at an angle to each other, in which case the linkage will maintain that alignment between the rails, but the rails will most usually
15 be parallel or nearly parallel to each other.

The linkage may have any shape suitable for passing over a ridge tile. Preferably, the linkage extends in an inverted U-shape between the rails. The U-shape may be rounded or arch-shaped, but in a preferred embodiment of the invention, the
20 linkage has an essentially square inverted U-shape. Such a shape will pass over any of the usual profiles of ridge tiles.

It is particularly advantageous if there are at least two linkages, one of these linkages being positioned towards one end of the rails, and the other of these
25 linkages being positioned towards the other end of the rails. A user can then align the jig at a first linkage with respect to a ridge tile which has previously been set in position correctly, then move the jig so that the rails are correctly oriented with respect to the desired direction of a line of ridge tiles to be laid, and then adjust the position of a newly laid tile until the clearance or contact of this ridge tile with
30 respect to the jig at the second linkage matches that at the first linkage.

Preferably, the jig includes attachment means for removeably attaching the linkage

to at least one of the rails. This permits the linkage(s) to be removed and fitted to a range of rails, which may have different cross-sectional profiles, heights or lengths depending on the characteristics of the roof or the type of ridge tiles being laid.

- 5 In a preferred embodiment of the invention, the linkage forms a handle by which the jig may be grasped and lifted by a hand when not in use.

In order to help with the alignment of the jig in the direction in which it is desired to lay ridge tiles, the jig may include at least one level gauge, for example a spirit
10 level, for measuring the horizontal alignment of the jig in at least one corresponding plane. Most preferably, there is at least one pair of level gauges, one of which is on an attachment means by which the linkage is attached to a rail, and the other of which is on a central portion of the linkage. The level gauges can then measure the horizontal alignment of the jig in orthogonal vertical planes.

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So that the jig can be adapted for use with a wide range of different types of ridge tiles, the linkage preferably has an adjustment mechanism for setting the spacing between the rails. The adjustment mechanism may also permit the rails to be separated from each other when the jig is not in use, which can help a user to
20 store the disassembled jig in a more compact manner.

Also according to the invention, there is provided a linkage for incorporation in a jig for laying roofing ridge tiles according to the invention, in which the linkage comprises attachment means by which the linkage may be attached to each rail,
25 the linkage then extending in an inverted U-shape between said attachment means.

The attachment means may include at least one bracket for attachment to a corresponding rail, in which case, the bracket preferably has an inverted L-profile
30 in cross-section, a first arm of this profile extending in use generally horizontally, and a second arm of this profile extending in use generally vertically.

In a preferred embodiment of the invention, there is at least one pair of such brackets, one for attachment to each rail. Each of the first arms of this pair of brackets extends laterally inwards from the corresponding second arm, so that the rail is fixed between the inverted L-profiles of the pair of brackets. The advantage
5 of this is that the rails can preferably extend laterally inside the brackets, so that the brackets, or the means by which these are fixed to the rails, do not come into contact with laid ridge tiles or interfere in an assessment of any clearance gap between the rails and the laid ridge tiles. The arrangement can then be such that the rails provide a uniform contact or clearance with the ridge tiles, or the mortar
10 with which the ridge tiles are secured to the roof.

So that the jig can be adapted for use with a wide range of different types of ridge tiles, the linkage preferably has an adjustment mechanism for setting the spacing between the attachment means. The adjustment mechanism may also permit the
15 linkage to be split into two sections, which may aid with packaging or storage of the linkage prior to connection to rails.

The invention further provides a method of laying roofing ridge tiles using a jig according to the invention, the method comprising the steps of:

- 20 - laying at least one ridge tile along a line of ridge tiles to be laid;
- placing the jig over said ridge tile(s);
- aligning the jig so that the rails and/or linkage of the jig define a desired orientation of the line of ridge tiles;
- using the clearance or contact of the jig with said ridge tile(s) to check and if
25 necessary adjust the alignment of the ridge tile(s) with respect to said desired orientation.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will now be further described, by way of example only, and with reference to the accompanying drawings, in which:

5

Figure 1 is a perspective view of a portion of a jig for laying roofing ridge tiles according to a preferred embodiment of the invention, showing how the jig is formed from a pair of elongate parallel rails held together by a linkage that passes over a ridge tile lying between the rails;

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Figure 2 is a plan view from above a jig for laying roofing ridge tiles according to a preferred embodiment of the invention, showing how the jig with a pair of linkages at either end of a pair of parallel rails may be use to help align a straight run of ridge tiles;

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Figure 3 is a perspective view of one of the linkages of Figure 2, showing how the linkage has a pair of brackets which can be disconnected from the rails;

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Figure 4 shows how components of the linkage of Figure 3 can be disconnected; and

Figures 5 and 6 show two portions of the linkage when disconnected from each other.

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DETAILED DESCRIPTION

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Figure 1 shows a perspective view of a portion of a jig 1 for laying roofing ridge tiles. The jig 1 is formed from a pair of elongate parallel rails 2, 3 held together by a linkage 4 which, in use, passes over a ridge tile 6 lying between the rails 2, 3. As shown in Figure 2, the complete jig 1 has a pair of such linkages 4, 4' at either end of the pair of parallel rails 2, 3. The rails 2, 3 may be any convenient length, for

example between about 1 m and about 3 m in length. The jig 1 should not be so long that it cannot be conveniently lifted and moved into position on a roof 7, nor so short that it cannot span at least two ridge tiles 6 so that these can be aligned with respect to each through use of the jig 1.

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As shown in Figure 3, each linkage 4, has a pair of brackets 8, 9. The linkage is removeably attached to each of the rails 2, 3 by means of screws 13 which pass through holes 15 in the bracket. Between the brackets 8, 9, the linkage 4 is formed from a pair of L-shaped arms 10, 11 that are connected at a clamp 12 centrally on the linkage 4 to form an inverted U-shape.

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As shown in Figure 4, the clamp 12 is formed from a socket 14 in a first one of the arms 11 into which an end 15 of the second, smaller diameter arm 10 is inserted. A wing bolt 16 is screwed into a threaded through bore 17 in the first arm 11 and may be tightened by hand 18 to secure the end 15 of the second arm 10 inside the socket 14.

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The clamp 12 can also be loosened by turning 19 the wing bolt 16 to disengage the pair of arms 10, 11, which may then moved laterally 20 in order to set the spacing between the pair of rails 2, 3. Once the correct spacing is achieved, the wing bolt 16 may be tightened 18 again.

20

Each bracket 8, 9 has an inverted L-shaped cross-section, with a horizontal arm 22 that is above and which extends laterally inside a downwardly extending vertical arm 23. The right angle formed by the junction of each pair of the bracket arms 22, 23 provides a pair of engagement surfaces for engaging with upper and laterally outer surfaces of the rails and is therefore most suitable for receiving a square or rectangular cross-section rail 8, 9.

25

These rails may, most conveniently, be formed from the same type of wood used as roofing battens, for example nominal 1" x 2" battens (nominal 25 mm x 50 mm). The wooden rails 2, 3 are removeably attached to the brackets 8, 9 by means of

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screws 24 driven through holes 25 in the vertical bracket arms 23 into the wooden rails 2, 3. As an alternative to screws 24, bolts, posts or rivets may be used, particularly if the rails are formed from another material, such as plastic or metal.

- 5 Each of the linkage arms 10, 11 may be permanently affixed to the corresponding bracket 8, 9, for example by welding.

10 The jig is provided with a number of spirit levels: one 30 positioned on and in line with each of the brackets 8, 9, and one 31 on and in line with each of the first linkage arms 11. The bracket and linkage arm spirit levels 30, 31 are therefore oriented at right angles to each other so that a user may determine the orientation of the jig with respect to level in two orthogonal vertical planes.

15 In use, a user may first lay at least one ridge tile 6 along a line of ridge tiles to be laid. The jig 1 is then placed over the ridge tile or a number of adjacent ridge tiles 6. The user can then align the jig 1 so that the rails 2, 3 and linkage 4 of the jig define a desired orientation of the line of ridge tiles 6. In doing this, the user can if necessary refer to the readings given by the spirit levels. The spacing between the rails may be set so that there is a slight clearance between the jig and the ridge
20 tiles, or the spacing may allow the jig to contact the ridge tiles 6 at various points. This latter option is particularly helpful in that the jig can help to stabilise the positioning of the ridge tiles while mortar 35 is still wet.

25 The user may then use the clearance or contact of the jig 1 with the ridge tile(s) 6 to check and if necessary adjust the alignment of the ridge tile(s) 6 with respect to the desired orientation of the line of ridge tiles as defined by the orientation of the jig to achieve the desired orientation of the line of ridge tiles 6.

30 After the correct alignment of the or each of the ridge tiles is obtained, the user can lay one or more additional ridge tiles along the same line and then move the jig along to check and if necessary adjust the orientation of the freshly laid ridge tile(s).

Although the preferred embodiment of the invention uses rails which are separate components from the linkage, the skilled person will appreciate that the rails and linkage could be made in a unitary or one-piece construction, for example from an injection moulded plastic material.

It should be noted that although the invention has been described in terms of straight, parallel rails, the rails could be set at a slight angle to each other. For example, one end of the rails could be set to contact a previously laid ridge tile, while the other end could have a slightly wider spacing to make it easier to place and lay a ridge tile between the rails. The spacing between the linkages 4, 4' may therefore be set so that ridge tile can be laid directly between the linkages 4, 4' without the need to move the jig out of the way. Preferably, this spacing is therefore at least about 500 mm.

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The invention can also be adapted for use with curved ridges, in which case, the rails could be curved and concentric with the radius of curvature of the curved ridge.

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The invention in its various embodiments therefore provides an economical and convenient apparatus and method for accurately laying a wide range of different types of roofing ridge tiles on a variety of different roof types.

CLAIMS

1. A jig for laying roofing ridge tiles, comprising a pair of elongate laterally offset rails, and at least one linkage extending between the rails to hold said rails
5 in alignment with each other, such that the rails of the jig can be placed on a roof either side of a line of ridge tiles being laid with the linkage extending over said ridge tiles.
2. A jig as claimed in Claim 1, in which the rails are parallel to each other.
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3. A jig as claimed in Claim 1 Claim 2, in which the or each linkage extends in an inverted U-shape between the rails.
4. A jig as claimed in any preceding claim, in which there are at least two
15 linkages, one of said linkages being positioned towards one end of said rails, and the other of said linkages being positioned towards the other end of said rails.
5. A jig as claimed in any preceding claim, in which the jig includes attachment means for removeably attaching the linkage to at least one of the rails.
20
6. A jig as claimed in Claim 5, in which the attachment means includes at least one bracket by which the linkage is attached to at least one of the rails.
7. A jig as claimed in Claim 6, in which the or each bracket is generally
25 L-shaped in cross-section, having a pair of engagement surfaces for engaging with upper and laterally outer surfaces of the rails.
8. A jig as claimed in Claim 6 or Claim 7, in which the attachment means includes holes in the bracket for receiving screws, bolts, posts or rivets by which
30 the linkage is attached to the rail.
9. A jig as claimed in any preceding claim, wherein the rails are strips of wood,

said strips having a generally square or rectangular cross-section.

10. A jig as claimed in any preceding claim, in which the linkage forms a handle by which the jig may be grasped and lifted by a hand when not in use.

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11. A jig as claimed in any preceding claim, in which the jig includes at least one level gauge for measuring the horizontal alignment of the jig in at least one corresponding plane.

10 12. A jig as claimed in Claim 11 in which the level is a spirit level.

13. A jig as claimed in Claim 11 or Claim 12, in which there is at least one pair of level gauges, one of which is on an attachment means by which the linkage is attached to a rail, and the other of which is on a central portion of the linkage, said
15 pair measuring the horizontal alignment of the jig in orthogonal planes.

14. A jig as claimed in any preceding claim, in which the linkage has an adjustment mechanism for setting the spacing between the rails.

20 15. A jig as claimed in Claim 14 in which the adjustment mechanism permits the rails to be separated from each other when not in use.

16. A linkage for incorporation in a jig for laying roofing ridge tiles as claimed in any preceding claim, said linkage comprising attachment means by which the
25 linkage may be attached to each rail, said linkage extending in an inverted U-shape between said attachment means.

17. A linkage as claimed in Claim 16, in which the attachment means includes at least one bracket for attachment to a corresponding rail.

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18. A linkage as claimed in Claim 17, in which said bracket has an inverted L-profile in cross-section, a first arm of said profile extending in use generally

horizontally, and a second arm of said profile extending in use generally vertically.

19. A linkage as claimed in Claim 18, in which there is at least one pair of said brackets, one for attachment to each rail, each of said first arms of said pair
5 extending laterally inwards from the corresponding second arm.

20. A linkage as claimed in any preceding claim, in which the linkage includes at least one level gauge for measuring the horizontal alignment of the linkage in at least one corresponding plane.

21. A linkage as claimed in Claim 20, in which the level is a spirit level.

22. A linkage as claimed in Claim 20 or Claim 21, in which there is at least one pair of level gauges, one of which is on an attachment means by which the linkage
15 is attached to a rail, and the other of which is on a central portion of the linkage, said pair measuring the horizontal alignment of the jig in orthogonal planes.

23. A linkage as claimed in any of Claims 16 to 22, in which the linkage has an adjustment mechanism for setting the spacing between said attachment means.

24. A linkage as claimed in Claim 23 in which the adjustment mechanism permits the attachment means to be separated from each other when not in use.

25. A method of laying roofing ridge tiles using a jig as claimed in any of Claims
25 1 to 15, comprising the steps of:

- laying at least one ridge tile along a line of ridge tiles to be laid;
- placing the jig over said ridge tile(s);
- aligning the jig so that the rails and/or linkage of the jig define a desired orientation of the line of ridge tiles;
- 30 - using the clearance or contact of the jig with said ridge tile(s) to check and if necessary adjust the alignment of the ridge tile(s) with respect to said desired orientation.

26. A jig for laying roofing ridge tiles, substantially as herein described, with reference to or as shown in the accompanying drawings.

5 27. A linkage for incorporation in a jig for laying roofing ridge tiles, substantially as herein described, with reference to or as shown in the accompanying drawings.

28. A method of laying roofing ridge tiles using a jig, substantially as herein described, with reference to or as shown in the accompanying drawings.

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Examiner: Mr Lisbeth Jeppesen

Claims searched: 1-28

Date of search: 18 January 2007

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1-7,9-25	GB2281092 A (RYDER) See entire document
X	1-6,8-25	GB2336389 A (BOWLER) See entire document
X	1-3,16,23-24	GB2218450 A (SHAFTO) See Fig. 1

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^X:

Worldwide search of patent documents classified in the following areas of the IPC

E04D; E04F; E04G

The following online and other databases have been used in the preparation of this search report

EPODOC, WPI